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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHANG, AUDREY Y	
ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/762,719	JORGENSEN ET AL.	
	Examiner	Art Unit	
	Audrey Y. Chang	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **July 12, 2004** has been entered.

2. This Office Action is also in response to applicant's amendment filed on July 12, 2004, which has been entered into file. The applicant is **respectfully noted** amendments to the claims filed on or **after July 30, 2003** must comply with 37 CFR 1.121(c), in particularly the claims have to be placed at **separated pages, separated** from other parts such as remark of the response.

3. By this amendment, the applicant has amended claims 12 and 19.

4. Claims 12-22 remain pending in this application.

5. The rejections of claims 12-22 under 35 UC 112, first paragraph, set forth in the previous Office Action are **withdrawn** in response to applicant's amendment.

Response to Amendment

6. The **affidavit** filed on June 21, 2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the cited **Roche et al (PN.4,645,714) and Schissel et al (PN. 5,361,172)** references. The arguments are based on the features that are **not** in the claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 12-13, 15-18, 19-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Roche et al (PN. 4,646,714) in view of the patent issued to Schissel et al (PN. 5,361,172).

Roche et al teaches a *corrosion-resistant silver mirror* that is comprised of a *substrate* (21, Figure 2) made of *polyester foil*, a *thin specularly reflective silver layer* (13), a *protective polymeric layer* (15) and a ***second*** *polymeric layer containing ultraviolet absorber* (16) *overlaying* the protective polymeric layer, serves as the **protective shield layer**, (please see Figure 2, column 6). Roche et al teaches that the second polymeric layer containing the ultraviolet absorber is an *acrylic polymer layer*, (please see column 6, lines 65-69). Roche et al teaches explicitly that the silver mirror is for use in solar collectors or reflectors, (please see column 1 lines 10-11).

This reference has met all the limitations of the claims with the exception that it does not teach explicitly that the UV absorbing polymeric layer or the protective shield layer has claimed *thickness*. However it is a general knowledge in the art that by increasing the thickness of the protective shield layer the silver mirror will be *better* protected from corrosion and will have *better* ultraviolet light absorption properties. It would then have been obvious to one skilled in the art to modify the protective shield layer to obtain the desired thickness for the benefit of achieving desired corrosion resistance and ultraviolet absorbing property. Since it has been held when the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. **Furthermore, Schissel** et al in the same field of endeavor teaches to use an *acrylic polymeric layer* having *ultraviolet absorbers* as protective layer for a *silver mirror* wherein the thickness of polymeric layer is about 3.5 mil, (i.e. it is between 2-8 mil), (please see columns 3-4). Schissel et al

teaches explicitly that by having this thickness the mirror is capable of being protected from corrosion yet achieves high hemispherical reflectance. It would then have been obvious to one skilled in the art to apply the teachings of Schissel et al to modify the protective shield layer to have a thickness of 3.5 mil for the benefit of achieving good corrosion protection and good hemispherical reflectance for the silver mirror.

With regard to claims 15-18 and 22, Roche et al teaches that the second polymeric layer having the UV absorber is *coated* on the protective polymeric layer but it does not teach explicitly that the coating process are the process recited in the claims. However the *product-by-process limitations* of the claims are given *no patentable weight* per se but are only given weight in terms of how they distinguish the final product. In this cases, the processes of adhesive, solvent weld, thermal weld and ultrasonic weld are all well-known processes in the art for attaching the polymeric layer to the other layer and they therefore do not patently distinguish the silver mirror with the UV absorbing polymeric layer of the instant application from the prior art silver mirror with the UV absorbing polymeric layer, (please see MPEP section 2173.05(p)). With regard to claim 22, since gluing, adhesive or welding are well-known process for coating the UV absorbing polymeric layer such modifications would have been obvious variations to one skilled in the art for the benefit of attaching the layer to the protective layer of the silver mirror.

9. **Claims 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patents issued to Roche et al and Schissel et al as applied to claims 12 and 19 above, and further in view of the patent issued to Tolliver et al (PN. 5,069,964).**

The corrosion-resistant silver mirror with ultraviolet absorbing polymeric layer taught by Roche et al in combination with the teachings of Schissel et al as described for claims 12 and 19 above have met all the limitations of the claims. Roche et al teaches that the polymeric material for the UV absorbing

layer is acrylic polymer but it does not teach explicitly that this polymeric layer may also comprise other polymers as claimed. However UV absorbing film with good corrosion-resistant made by including UV absorber in polymeric layer such as *polyesters* or *fluoropolymers* is very well known in the art as demonstrated by the teachings of **Tolliver** et al, (please see column 10, lines 12-29), for protecting a retroreflective sheet including silver reflective layer. It would then have been obvious to one skilled in the art to apply the teachings of Tolliver et al to make the UV absorbing polymeric layer with polyester or fluoropolymer layer for the benefit of providing alternative UV absorbing polymeric layer for the silver mirror to make the mirror suited for different application requirements.

Response to Arguments

10. Applicant's arguments filed on July 12, 2004 have been fully considered but they are not persuasive. The newly amended claims 12-22 have been fully considered and they are rejected for the reasons stated above.

In response to applicant's arguments which states that the cited Roche et al reference does not teach "a second protective layer of transparent multipolymer film affixed to its mirror" which therefore differs from the instant application, the examiner respectfully disagrees for the reasons stated below. **Roche** et al teaches **explicitly** to include *a second polymeric layer* (16, Figure 2), which could be an *acrylic polymer*, the same multipolymer layer material as claimed by the instant application, with *ultraviolet absorbers* incorporated within wherein this second polymeric layer (16) is adhered to an *exposed surface* of the *first protective layer* (15), (please see the explicit disclosure in Figure 2 and column 6). Roche et al therefore discloses a silver mirror structure that has exactly the **same** layer arrangement as the instant application.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., (1) the measured spectral

hemispherical reflectance is retained with high optical clarity through the UV and visible spectrum at near 100% reflectance, (2) superior durability of solar weighted hemispherical reflectance is beyond 5 years, (3) resistance to moisture exceeds 60 days, (4) affixes a *second protective layer* of transparent multipolymer film to the *base* Silverlux material of Roche et al) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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